EVOLUTION OF NON-TARIFF MEASURES:
EMERGING CASES FROM SELECTED DEVELOPING COUNTRIES

by

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NOTE

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ABSTRACT

The objective of the paper is to provide a brief account of the international efforts in understanding non-tariff measure (NTM)-related trade policies. Research and analysis activities began in UNCTAD in the 1980s to define, classify and measure the impact of NTMs on developing countries’ exports and economic growth. Due to changes in trade policies over the past decade, policymakers have required a new set of approaches to define, classify and codify NTMs. A leading role has been taken by UNCTAD in bringing together several international agencies and eminent persons to build consensus on these issues since 2005. The present paper uses the NTMs classification system, which includes several new subcategories for sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBTs) to appropriately reflect the increasing use and importance of these policy measures. In particular, the paper analyses NTMs-related information from over 2,000 small and medium size firms from seven developing countries (Brazil, Chile, India, the Philippines, Thailand, Tunisia and Uganda) to gauge how firms in those countries are affected by NTMs, both at home and abroad. The results clearly indicate high shares of SPS measures and TBTs in all countries. The shares ranged from about 65 per cent in the surveys for India to about 93 per cent for Thailand. The paper also includes the concept of procedural obstacles, which refers to issues related to the process of applying an NTM, rather than the measure itself. About 57 per cent of the procedural barriers faced by exporters are classified as “inefficiency or obstructions”, and 20 per cent as "arbitrariness or inefficiency", while 60 per cent of the procedural barriers faced by importers are concerned with inefficiency or obstructions and 23 per cent with arbitrariness or inefficiency. Another interesting result was that the sectors particularly affected were vegetable products, textiles and clothing, electrical and machinery products and chemical and allied industries. The study concludes that current research and analysis on NTMs will better help policymakers in producing impact assessment analysis of trade-related reforms and will critically act as a vehicle for promoting trade and investment integration processes to expand the depth and opportunities for global cooperation.

Keywords: Non-tariff measures, developing countries, sanitary and phytosanitary measures, technical barriers to trade

JEL classification: F13, O 57
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1. Introduction

Over the years, multilateral trade negotiations have helped to substantially reduce tariff rates. According to the UNCTAD Trade Analysis and Information System (TRAiNS) database, the tariff averages on both agricultural and non-agricultural products declined steadily from 19.9 per cent and 6.7 per cent in 1995 to reach 7.4 per cent and 2.4 per cent in 2008, respectively.\(^1\) This decline in the global tariff barrier is due to eight rounds of multilateral trade negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT)/WTO, as well as under bilateral and regional arrangements. However, this decline has also raised the relative importance of NTMs, which are used now more than ever before as both protectionist and regulatory trade instruments to control and hamper the free flow of international trade.

This notion is attracting further attention due to the potential trade and currency war stemming from the global financial and economic crisis of 2009. It is quite evident that both developed and developing countries have started to use trade policy instruments as a response to the present global economic and financial crisis, mainly in the form of NTMs to protect domestic producers. The ongoing global economic crisis has once again highlighted the urgent need to address subtle and not-so-subtle NTMs, which have been used under various legitimate pretexts (such as protection of health and the environment). Economists often argue that these measures affect trade much more ambiguously than tariffs, which are price-based and transparent policy measures. For example, while the majority of NTMs that have been introduced during the two years since the onset of the current global crisis are largely WTO-consistent, they have been considered as policy measures to restrict the free flow of goods and services across borders.\(^2\)

It is generally considered that the term NTM covers a wide variety of policy tools, both traditional and new, including SPS measures, TBTs, quotas, import and export licences, export restrictions, customs surcharges, and anti-dumping and safeguard measures. In times of economic crises and in view of national policy challenges, a danger of NTMs is that they can be abused for protectionist purposes as political emotions outweigh past experiences and the intellectual foundations of trade policy measures. Over the past few years, the leaders of G20 countries have repeatedly discussed the issue of refraining from using NTMs because of their potential for slowing down the positive outcomes of trade expansion and integration.\(^3\)

It is noteworthy that UNCTAD has always underscored the mismatch between, on the one hand, the reduction of tariffs arising from GATT/WTO multilateral agreements and the numerous regional- and bilateral-level preferential trade agreements (PTAs)\(^4\) that were concluded over the

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1. Import-weighted applied tariff rates, including preferences. See World Integrated Trade Solution (WITS)/TRAiNS at [http://www.unctad.org/trains](http://www.unctad.org/trains).
3. See the G20 Seoul Summit leaders’ declaration, 11–12 November 2010: “Trade and Development Policies: We reaffirm our commitment to free trade and investment recognizing its central importance for the global recovery. We will refrain from introducing and oppose protectionist trade actions in all forms and recognize the importance of a prompt conclusion of the Doha negotiations”, see [http://www.g20.org/Documents2010/11/seoulsummit_declaration.pdf](http://www.g20.org/Documents2010/11/seoulsummit_declaration.pdf).
4. PTAs include free trade agreements, customs unions, common markets, and single markets. Latest statistics show that there are now about 300 PTAs in force worldwide as compared to 37 in 1994, of which half have come into effect since 2000.
past decades, and on the other the proliferation of NTMs. So, as tariff levels have fallen over the years, NTMs have increasingly taken centre stage in market-access concerns.5

With the growing number of trade policy measures under discussion globally, it has become clear that the existing rules under the relevant WTO agreements are not adequate to regulate a massive flow of SPS and TBT regulations, and standards (international, national and private), and yet these agreements are not a subject of negotiation in the ongoing Doha Development Round. Moreover, in spite of their importance, there is little understanding of the exact implications of NTMs on trade flows, export-led growth national development goals and social welfare in general.

This paper has drawn substantially from a recent UNCTAD publication (UNCTAD, 2010) that showcased several aspects of UNCTAD activities on NTMs as well as firm-level surveys on NTMs in selected developing countries. The research indicates that in recent years there have emerged visible forms of NTMs, such as through SPS measures and TBTs, as well other forms. Typically they involve the intentional misuse or abuse of otherwise non-discriminatory, inside-the-border measures, which were originally intended to protect the well-being of consumers or the environment in the importing countries (rather than to protect the producers).6

With the rise of trade dynamism in developing countries, there are growing fears of protectionism among trades and entrepreneurs wishing to carry out international trade. Against this backdrop, NTMs need to be described, classified and stored in a manner which will make it easy for all types of users to access, extract and evaluate them to increase their lawful use in support of growth and job creation.

While it is a difficult and complex activity to identify hidden measures and other NTMs, it is an essential task if developing countries are to participate fully in the process of refining the rules, regulations and disciplines in the SPS and TBT agreements, as well as in other negotiating forums that deal with other forms of non-tariff barriers (NTBs), such as those included in the WTO Doha Round of negotiations. In this context, there is an urgent need to develop a much broader understanding of NTMs and their economic impacts in developing countries.

It was against this background that UNCTAD launched the new initiative to reach a common understanding of the relative importance of the different types of NTMs and their impact on trading activities, especially for developing countries.

This paper is organized as follows: section 2 provides a brief historical account of elements leading to the new UNCTAD initiatives on NTMs that started in 2005. Section 3 documents UNCTAD activities related to NTMs, between 2005 and 2009, in collaboration with international, regional and national stakeholders. Section 4 presents the definition and classification of NTMs newly endorsed by the Group of Eminent Persons on Non-tariff Barriers (GNTB), which was

5 The 9th Global Trade Alert Report (July 2011), see www.globaltradealert.org, estimates the number of measures (official) implemented in 2008 at roughly 70 per quarter, and at fewer than 5 per cent the product categories that have escaped being hit by some type of protectionist measure. The report also points out that many governments are already planning another 134 protectionist measures – equivalent to half a year’s protectionism at current rates. Moreover, G20 governments, according to the report, have implemented 121 beggar-thy-neighbour measures (as of October 2009). G20 countries account for 101 of the 141 protectionist measures that have harmed the commercial interests of the most vulnerable nations, namely, the least developed countries. Most of that harm is done by the developing country members of the G20 (as of November 2010). The 9th Global Trade Alert Report notes that “since November 2010, 194 protectionist measures have been implemented. G20 governments were responsible for 80 per cent – 155 – of the protectionist measures taken since the Seoul summit. Moreover, the four BRICs countries are responsible for implementing a third of protection worldwide”.

6 See UNCTAD, 2010.
constituted by the Secretary-General of UNCTAD in 2006. Section 5 illustrates some descriptive
statistics which were compiled during the pilot project in seven developing countries, namely,
Brazil, Chile, India, the Philippines, Thailand, Tunisia and Uganda. Section 6 concludes the paper.

2. A brief account of NTMs-related research

There have been several key studies over the years in international trade policy research
illustrating, through quantification and modelling methodologies, the importance of NTMs and
their economic effects. Many studies over the past decades have been based on the UNCTAD
Coding System of Trade Control Measures (TCMCS) to identify the measures across countries and
products. Apart from the theoretical arguments about the pitfalls associated with these trade-barrier
measures and their economic outcomes, there have also been several attempts to appropriately
convert non-tariffs into ad valorem equivalents (AVEs), which can be comparable across countries
and sectors at the aggregate level.

The initial sets of studies on the definitions and issues related to the impact of NTMs were
based on the pioneering research work of Baldwin (1970) and Corden (1971). According to
Baldwin, NTMs are regarded as “any measure (public or private) that causes internationally traded
goods and services to be allocated in such a way as to reduce potential real world income”. Subsequently, the definition also included other distortionary policy measures, such as production
and export subsidies, which could in a way impact imports (Laird and Yeats, 1990; Bora, Kuwahara and Laird, 2002).

Since 1967, GATT/WTO has developed and maintained another NTM inventory based on
notifications with a view to undertake negotiation activities with member states. The GATT/WTO preserves information of notification of countries’ own measures under individual agreements such
those concerning SPS measures and TBTs. Several authors have used these data sets by
introducing methodologies to quantify the impact of these measures on trade through price,
quantity and elasticity of demand for imports. Later on, many research documents provided a
comprehensive overview of the issues related to NTMs and their economic impacts, including

The above studies have identified three approaches to measure NTMs: frequency-type
measures are based on counts of observed NTMs that apply to particular countries, sectors, or types
of goods trade; price-comparison measures are computed as tariff equivalents; quantity-impact
measures are based on econometric estimates of goods trade flows.

In line with these approaches, researchers have made attempts to quantify the overall trade
policy through development of the Trade Restrictiveness Index, with notable contributions from
Anderson and Neary (1996, 2005), Beghin and Bureau (2001) and Kee, Nicita and Olarreaga
(2009). There are some studies that identify price and welfare impacts of NTMs by using older
UNCTAD NTMs classifications (Ferrantino 2006, Fugazza and Maur 2008).7

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7 See http://i4ide.org/NTMwiki/index.php?title=General_NTM_Studies. See also United States International
Trade Commission (USITC) (1990), Office of the United States Trade Representative (USTR) (1992),
(2003), World Bank (2008) and UNCTAD (2005, 2010) for an understanding of NTMs and their impact on
welfare.
2.1 Overview of the Coding System of Trade Control Measures (TCMCS)

At the international level, UNCTAD has been actively involved in research and programmatic activities on issues related to non-tariff measures since the early 1980s. In 1994, it began to collect and classify NTMs from official sources according to the customized TCMCS system. This coding system classified tariffs, para-tariffs and NTMs into over 100 subcategories. Concurrently, the TRAINS database was developed by UNCTAD, which subsequently grew into the most complete collection of publicly available information on NTMs. In 2002, in collaboration with the World Bank, TRAINS was made accessible to researchers through the WITS software application.

The earlier UNCTAD NTMs classification had six core categories according to the nature of the measure: (1) price control measures; (2) finance measures; (3) automatic licensing measures; (4) quantity control measures; (5) monopolistic measures; (6) technical measures. These were further subcategorized in accordance with the types of measures under consideration. Measures were listed in accordance with the Harmonized Coding classification. In general, only the categories termed sensitive product categories and technical regulations were further subcategorized according to the objectives of the measure (for example, protection of safety, human health, animal health and life, plant health, environment and wildlife). Classification of NTMs was divided into core measures and non-core measures, where core measures included those intended to protect local producers, and non-core measures included measures intended to protect local consumers (figure 1). The TRAINS database contains a brief description of each NTM, the affected or excluded countries, and footnotes on the exact product coverage, where available.

**Figure 1. The measures and chapters of the earlier UNCTAD NTMs classification**

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Price control measures</td>
</tr>
<tr>
<td>4</td>
<td>Finance measures (except 417)</td>
</tr>
<tr>
<td>6</td>
<td>Quantity control measures (except 617, 627 and 637)</td>
</tr>
<tr>
<td>7</td>
<td>Monopolistic measures</td>
</tr>
<tr>
<td>5</td>
<td>Automatic licensing measures</td>
</tr>
<tr>
<td>8</td>
<td>Technical measures</td>
</tr>
<tr>
<td>417</td>
<td>Refundable deposit for sensitive products</td>
</tr>
<tr>
<td>617</td>
<td>Non-automatic licence for sensitive products</td>
</tr>
<tr>
<td>627</td>
<td>Quotas for sensitive products</td>
</tr>
<tr>
<td>637</td>
<td>Import prohibition for sensitive products</td>
</tr>
</tbody>
</table>

*Source: UNCTAD secretariat.*

9 The UNCTAD TRAINS database was also the result of a close collaborative effort with a number of regional organizations, including the Associação Latino-Americana de Integração (ALADI), the Secretaría de Integración Económica Centroamericana and the South Asian Association for Regional Cooperation, as well as with the Inter-American Development Bank. Among these partner organizations, ALADI developed a comprehensive NTM database of its member countries, and these data were included in the TRAINS database. The UNCTAD TRAINS database does not, however, provide any measurement of the restrictiveness of any specific measure, and needed further improvements, notably with respect to coverage, updatedness and data quality.
The objective of the TRAINS database has been to increase transparency in trade policy across the board. The database also provides information to help analysis of market access conditions, analytical support for trade negotiations, analysis of national trade policies, and analytical support for general research on trade policies.

While the UNCTAD TRAINS database remains the most comprehensive database on NTMs, the process of updating it with the existing classification system had slowed down significantly by the beginning of the 2000s. This was mainly due to key issues which included difficulties in identifying NTMs, a growing perception that the TCMCS did not adequately reflect new measures in certain subcategories, and a shortage of resources.

### 2.2 Shortcomings of TCMCS

The need to update TCMCS to reflect new practices became all the more necessary in the light of the growing relative importance of non-core NTMs as an instrument of trade policy, as shown in table 1a.

#### Table 1a. Changing nature of NTMs as reflected by TCMCS classification (percentage)

<table>
<thead>
<tr>
<th>Classification</th>
<th>1994</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core measures</td>
<td>45</td>
<td>15</td>
</tr>
<tr>
<td>Non-core measures</td>
<td>55</td>
<td>85</td>
</tr>
</tbody>
</table>

*Source: UNCTAD secretariat calculations based on the UNCTAD TRAINS database.*

To be more precise, the TRAINS database illustrates that globally, over the past decade, the technical measures (within the non-core measures category) have become a key component of countries’ trade policies (see table 1b).

#### Table 1b. Evolution of NTMs use by broad category within TCMCS (percentage)

<table>
<thead>
<tr>
<th>TCMCS description</th>
<th>1994</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-core measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic licensing measures</td>
<td>2.8</td>
<td>1.7</td>
</tr>
<tr>
<td>Monopolistic measures</td>
<td>1.3</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Technical measures</strong></td>
<td><strong>31.9</strong></td>
<td><strong>58.5</strong></td>
</tr>
<tr>
<td>Core measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price control measures</td>
<td>7.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Finance measures</td>
<td>2.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Quantity control measures</td>
<td>49.2</td>
<td>34.8</td>
</tr>
</tbody>
</table>

*Source: UNCTAD secretariat calculations based on UNCTAD TRAINS database.*

This result holds true at the regional level as well. The ASEAN database on NTMs clearly indicates that non-core measures are predominant (about 75 per cent in 2005) and technical measures are on the top of the list (see table 1c).
Table 1c. Types of NTMs applied in the ASEAN region through TCMCS (percentage)

<table>
<thead>
<tr>
<th>TCMCS description</th>
<th>1994</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-core measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic licensing measures</td>
<td>2.0</td>
<td>2.4</td>
</tr>
<tr>
<td>Monopolistic measures</td>
<td>1.5</td>
<td>2.7</td>
</tr>
<tr>
<td>Technical measures</td>
<td>39.2</td>
<td>49.0</td>
</tr>
<tr>
<td>Core measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price control measures</td>
<td></td>
<td>2.8</td>
</tr>
<tr>
<td>Finance measures</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Quantity control measures</td>
<td>57.3</td>
<td>43.1</td>
</tr>
</tbody>
</table>

Source: UNCTAD secretariat calculations based on UNCTAD TRAINS database.

This has given rise to a renewed interest within the UNCTAD secretariat to develop a relevant classification system that better reflects the complex nature of today’s international trading arrangements and mechanisms, and to update the TRAINS database accordingly and make it publicly available.

3. Launching of the UNCTAD new initiative on NTMs

The UNCTAD new initiatives on NTMs started with the ninth session of the Commission on Trade in Goods and Services, and Commodities, held in Geneva on 14–18 March 2005. In accordance with the São Paulo Consensus, UNCTAD convened the Expert Meeting on Methodologies, Classifications, Quantification and Development Impacts of Non-tariff Barriers, which was held in Geneva from 5 to 7 September 2005.

The focus of the expert meeting was primarily on technical and research issues (such as classification and quantification of NTMs) and on strengthening/forming partnerships with relevant international organizations and other stakeholders, with the goal of dealing with NTMs on a comprehensive and long-term basis. In sum, the key objectives of the expert meeting were:

(a) To identify ways to improve, both in terms of country coverage and data quality, the NTM database contained in the UNCTAD TRAINS database;
(b) To clarify methodologies for defining and classifying NTMs according to their nature and source, including clusters of NTMs that were already subject to WTO disciplines;
(c) To review econometric approaches to quantify NTMs that could be applied to improve understanding of the role of NTMs role in the world trade;
(d) To look at the experiences of other international organizations in dealing with NTMs, including the WTO, World Bank, the International Monetary Fund (IMF), OECD and others;
(e) To assist developing countries, including least developed countries, in building their analytical and statistical capacities to assess NTMs affecting their exports.
At the expert meeting, Supachai Panitchpakdi, Secretary-General of UNCTAD, expressed his intention to set up a group of eminent persons on NTMs. This group was to be drawn from governments, international organizations, academia and civil society. In 2006, the Secretary-General established the Group of Eminent Persons on Non-tariff Barriers (GNTB). The main purpose of the GNTB was to discuss the definition, classification, collection and quantification of non-tariff barriers to identify data requirements, and consequently to facilitate our understanding of the implications of NTMs. The GNTB met for the first time in Geneva on 12 July 2006, and adopted the following terms of reference:

(a) To make recommendations on the definition, classification and quantification of NTMs;
(b) To define the elements of and draw up a substantive work programme relating to the collection and dissemination of NTM data, with special focus on issues and problems faced by developing countries;
(c) To provide guidance on the further strengthening of the UNCTAD TRAINS database;
(d) To review and make recommendations on capacity-building and technical cooperation activities in favour of developing countries in the area of NTMs;
(e) To provide policy advice on inter-agency collaboration and coordination on activities relating to NTMs;
(f) To promote cooperation within the donor community;
(g) To prepare comprehensive recommendations on follow-up to the work of the GNTB.

To carry out the technical work of the GNTB, MAST was also set up by the GNTB. In addition to UNCTAD, GNTB MAST is composed of the following organizations: the Food and Agriculture Organization of the United Nations (FAO), IMF, the International Trade Centre UNCTAD/WTO (ITC), OECD, the United Nations Industrial Development Organization (UNIDO), the World Bank and WTO. The GNTB was also represented by observers from the United States Department of Agriculture, the United States International Trade Commission (USITC) and the European Commission. The team is composed of experts drawn from the above international organizations dealing with substantive analysis of NTMs.

Under the general guidance of UNCTAD, MAST had the following objectives:

(a) To provide a clear and concise definition of NTMs;
(b) To develop a classification system of NTMs to facilitate the data collection process and analysis;
(c) To devise ways to collect efficiently the information on NTMs, taking into account the existing mechanism of collecting specific elements of NTMs by each member agency;
(d) To provide guidelines for the use of data, including their quantification methodology.

Since 2006, MAST has held five meetings to discuss the classification of NTMs, and to identify data sources and data collection mechanisms. A pilot project was designed to test the

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10 Supachai Panitchpakdi, Secretary-General of UNCTAD, launched the activities on NTMs and set up the group that was composed of the following eminent persons: Alan V. Deardorff, Professor of Economics and Public Policy, University of Michigan; Anne O. Krueger, Former First Deputy Managing Director, IMF, later Professor of International Economics, Johns Hopkins School of Advanced International Studies; Amit Mitra, Secretary-General, Indian Federation of Chambers of Commerce and Industry; Marcelo de Paiva Abreu, Professor of Economics, Pontifical Catholic University of Rio de Janeiro; L. Alan Winters, Former Director, Development Research Group, World Bank, later Chief Economist, Department of International Development (DFID), United Kingdom of Great Britain and Northern Ireland; Rufus H. Yerxa, Deputy Director-General, WTO (designations referred to 2006-2009).

11 The first meeting of MAST was hosted by the World Bank on 18 October 2006 in Washington, D.C.. This meeting was followed by further meetings hosted by FAO on 5 April 2007 in Rome, by UNIDO on 28 September 2007 in Vienna, by OECD on 5 May 2008 in Paris, and by ITC on 27 January 2009 in Geneva.
updated classification and data collection procedures. Seven developing countries – Brazil, Chile, India, the Philippines, Thailand, Tunisia and Uganda – were identified as pilot countries.

Meanwhile, the Accra Accord resulting from the twelfth session of UNCTAD (UNCTAD XII) (Accra, Ghana, 20–25 April 2008) emphasized that “meaningful trade liberalization will also require addressing non-tariff measures…where they may act as unnecessary trade barriers…International efforts should be made to address non-tariff measures and reduce or eliminate arbitrary or unjustified non-tariff barriers” (para. 73). In this regard, UNCTAD was requested to “address the trade and development impact of non-tariff barriers…and as well as further improve and disseminate its analytical tools, such as databases and software, including TRAINS/WITS”\(^\text{12}\).

All of these international events have provided UNCTAD with a solid footing to convince other international partners to converge to provide global market access information to foster common prosperity through international trade and through an equitable and rule-based multilateral system.

### 4. Definition and new classification of NTMs

This section describes the work on proposing a workable definition and new system of classification of NTMs. During the MAST meetings, the technical group had proposed a broad definition and classification of NTMs. It was discussed at the meetings that the NTMs in a broad sense refer to all types of policy instruments that are not tariffs, and are applied to imported products. Such instruments may or may not affect trade flows. Most importantly, not all measures affecting trade are implemented with discriminatory or protectionist purposes.

It seems that the majority of NTMs fall into two categories: those that are technical barriers to trade and those that are sanitary/phytosanitary measures. Also, such measures may affect the trade of only a group of exporters. Some exporters may perceive certain SPS and/or TBT requirements as being too stringent and as market access barriers. On the other hand, some of these requirements may provide policy signals which can be adopted to fulfill requirements.

After a series of MAST meetings and consultations, this technical group proposed the following definition of NTMs:

Non-tariff measures (NTMs) are policy measures, other than ordinary customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both.

It was recognized by MAST that the formulation of a precise and balanced definition of NTBs posed substantial difficulties, and that a distinction between NTBs and NTMs should not be attempted. At the same time, MAST agreed that NTMs cannot be simply qualified as NTBs on the basis of a single piece of regulation and can only be unequivocally identified as such following analysis of detailed data (figure 2). Later, the group also agreed that a comprehensive database should be built uniquely to collect data on NTMs. This would leave open the judgment of whether a given measure constitutes a trade barrier and whether the measure has protectionist or discriminatory intent.

It was concluded by MAST that an updated and modified version of the previous UNCTAD TCMCS classification on NTMs was needed to take into account both the economic significance of an NTM, as well as the difficulty in collecting and properly classifying the data. The group also recognized that since information on NTMs needed to be collected from various (often heterogeneous) sources, there was a trade-off between the cost of collecting data and the degree of detail provided by the classification.

The classification of NTMs proposed by MAST and several external experts on NTMs is, therefore, suited for collecting information at a different level of detail to reflect the increasing recourse to the use of NTMs in international trade. It must be emphasized that, with respect to the TCMCS, the updated classification includes a substantial number of new subcategories on SPS measures and TBTs, and has introduced a few new categories of NTMs, such as export measures, trade-related investment measures, distribution restrictions, restrictions on post-sales services, subsidies, measures related to intellectual property rights and rules of origin.

Another innovative part of the new classification is that it has introduced the concept of procedural obstacles, which refers to issues related to the process of application of an NTM, rather than the measure itself. It was agreed by MAST that in a number of cases it is not the NTM per se that is discriminatory or creates an obstacle to trade but the actual implementation of the NTM. It was decided that information on problems or other excessive burdens related to the implementation of NTMs were to be collected through survey data under the broad term of procedural obstacles (figure 3).

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13 A detailed list of new NTMs classifications is available at http://ntb.unctad.org.
On 5 November 2009, the Secretary-General of UNCTAD convened the Geneva meeting of the GNTB to finalize the work on the system of definition and classification. At the meeting, GNTB members endorsed the new system proposed by UNCTAD in conjunction with MAST members. This meeting represents a landmark in the work on NTMs conducted by UNCTAD since the 1980s. Under the auspices of UNCTAD, MAST, the Governments acting as pilots to the project, regional organizations, national research institutions and private sector elements paved the way for global consensus-building on the definition, classification and collection of NTMs, and helped to facilitate understanding and awareness of NTMs among the developing countries.

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14 A detailed list of new NTMs classification is available at http://ntb.unctad.org.
5. Framework and results of firm-level NTMs surveys

Following the initial period of work to create a new NTMs classification, UNCTAD led a project for data collection on NTMs in selected developing countries. It was recognized that assembling a comprehensive NTM dataset creates numerous challenges at both the national and international levels. In general, the MAST agreed to collect data and information on NMTs through two different channels: official sources and exporters in the private/business sectors. Moreover, it was also decided to use a web-based platform (see http://ntb.unctad.org) to facilitate reporting of information related to NTMs. Figure 4 summarizes the data collection framework.

Figure 4. NTMs data collection framework

Non-tariff measures data collection framework

- **Official sources**
  - NTMs national and international agencies, documentation and databases
- **Private sector/business sources**
  - NTMs surveys (face-to-face interviews)
  - NTMs web portal (Trade Barrier Reporter)

Developing countries

Developed countries

Database on official NTMS

Database on NTMs perceived as barriers

Source: UNCTAD secretariat.

5.1 NTMs data collection framework

In January 2008 UNCTAD started the Pilot Project on Collection and Quantification of Non-tariff Measures Database in five developing countries: Brazil, Chile, India, the Philippines and Thailand.15 Subsequently, ITC joined in this initiative, and extended the project activities to Tunisia and Uganda.16 In this paper, we provide results from the seven countries in the pilot project.

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15 The project has been financed by generous contributions from the Government of Switzerland (Project number INT0T7BA) and the United Kingdom DFID (UNCTAD India Project).

16 Two United Nations regional commissions, ECLAC and ESCAP, supported the pilot project, as did several other national research institutions such as the Institute of Development Studies (the Philippines), the National Institute of Development Administration (Thailand), the University of Chile and the Centro de Estudos de Integração e Desenvolvimento (Brazil).
The data collection activities of the pilot project in each of these developing countries were carried out by a country reporting officer (CRO) and a specialized survey agency, in collaboration with UNCTAD technical experts. The CRO acted as the national focal point in the pilot country and was responsible for country-related activities including the identification, collection and monitoring of official and firm-level data.

To obtain the official information, there are various national sources that can be consulted, including the ministries of trade, of agriculture, and the national standard bodies of the respective countries. On the other hand, for the firm-level survey, face-to-face interviews were conducted to obtain information from both exporters and importers as they reported their experiences with respect to any export- and import-related problems they faced. The reported cases from both the official sources and the private firm-level surveys were then classified into the proper category of NTMs according to the new classification.

While this paper provides some initial results from the firm-level surveys in the seven developing countries, it must be noted that the sample size of firm-level surveys varied across countries, which are diverse in terms of geographical location and economic size. On average, 300 firms for each country were interviewed, including exporting and importing firms, during the period May 2008 to January 2009 (table 2).

The sampling was targeted toward sectors that were recognized a priori as facing more stringent NTMs, or sectors that were considered as significant in terms of export (or import) based on their shares in a country’s total exports (or imports). The preliminary results from the firm-level survey indicate some interesting policy issues related to both NTMs and procedural obstacles.

After obtaining information from pilot project countries, the total number of cases were counted in all the countries except Brazil. The number of cases varied across countries due to the sample size of the firm-level survey as well as to the number of complainants registered. The reported number of cases was categorized based on the firm’s export or import activities.

The conceptual framework on NTMs has been designed to collect and store the data in a way that helps quantify the measures and their potential impact on trade. To that end, the firm-level survey database is categorized in two dimensions that are based on types of measures: import measures and export measures. However, both exporting and importing firms can face either of these two measures while engaging in trade. As shown in figure 5, the import measures can be computed if the exporting firm in country A complains against country B for their exports. Thus, the importing country imposes trade policy measures that can potentially have an economic impact (cell C1 in figure 5). In the database as well as in the analysis, we refer to these as import measures. The import measures for exporting firms (C1) are mainly a set of complaints against trading partners.

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17 In addition to collecting data, the pilot project aimed at supporting developing countries to build technical capacity to collect and analyze information on NTMs that are affecting their own exporters. Under the project, initial training sessions were organized for the CROs, national partner institutions, officials of relevant ministries, chambers of commerce and other stakeholders, who were all closely involved in the project’s implementation.

18 See the UNCTAD (2010) report for a detailed discussion of the sampling methodology in each of these countries.

19 In addition to firm-level surveys, MAST agreed that information on trade-affecting NTMs could also be collected online through Internet. A prototype of a web-based portal for collecting NTB data, the Trade Barriers Reporter, was developed by UNCTAD. The Trade Barrier Reporter (http://ntb.unctad.org) is a global online reporting system for firms involved in international trade, where private-sector firms can report the NTMs they face. The online portal is also designed as a dissemination tool. Interested users can access data stored in the database through the portal and compare their experiences with other reports.
### Table 2. Firm-level NTMs survey in seven developing countries (sample size)

<table>
<thead>
<tr>
<th>Country</th>
<th>Survey reference period</th>
<th>Number of firms</th>
<th>Number of exporting firms</th>
<th>Number of importing firms</th>
<th>Number of firms doing both exporting and importing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>June–September 2008</td>
<td>80</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Chile</td>
<td>October 2008–January 2009</td>
<td>216</td>
<td>184</td>
<td>54</td>
<td>22</td>
</tr>
<tr>
<td>India</td>
<td>June–September 2008</td>
<td>422</td>
<td>345</td>
<td>77</td>
<td>-</td>
</tr>
<tr>
<td>Philippines</td>
<td>May–August 2008</td>
<td>303</td>
<td>299</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Thailand</td>
<td>June 2008–January 2009</td>
<td>435</td>
<td>430</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Tunisia</td>
<td>July–August 2008</td>
<td>395</td>
<td>238</td>
<td>276</td>
<td>119</td>
</tr>
<tr>
<td>Uganda</td>
<td>June–September 2009</td>
<td>269</td>
<td>204</td>
<td>81</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>2 120</strong></td>
<td><strong>1 700</strong></td>
<td><strong>500</strong></td>
<td><strong>160</strong></td>
</tr>
</tbody>
</table>

*Source*: UNCTAD secretariat calculations based on the NTMs pilot project database.

*Note*: The Brazilian survey was conducted in about 80 firms. However, the survey was not completed in due time. The information on NTMs for the private/business sector sources for Brazil is therefore incomplete.

A further case for consideration is that in which an importing firm in Country A complains against its own country for imposing trade policy measures (cell C3 in figure 5). These measures are often regarded as complaints by importers against their domestic trade policy rules that can eventually be categorized as barriers to their trade. There are also two other cases where firms can face possible trade policy measures that can be considered to be part of NTMs (see cells C2 and C4 in figure 5).

### Figure 5. Conceptual framework for the identification of the number of reported cases in NTMs firm-level surveys

<table>
<thead>
<tr>
<th>Country A</th>
<th>Import measures</th>
<th>Export measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exporting firm in country A (surveyed country)</td>
<td>(C1) Exporting firm complains against Country B for their exports. So, importing country imposes trade policy measures that can potentially have economic impacts…</td>
<td>(C2) Exporting firm complains in country A against its own country for imposing trade policy measures….</td>
</tr>
<tr>
<td>Importing firm in country A (surveyed country)</td>
<td>(C3) Importing firm in country A complains against its own country for imposing trade policy measures…</td>
<td>(C4) Importing firm in country A against country B for their imports for imposing trade policy measures….</td>
</tr>
</tbody>
</table>

*Source*: UNCTAD secretariat.
5.2 Identifying reported cases by NTMs

The framework helps to quantify the total number of cases pertaining to technical and non-technical measures as well as to that of export-measures. The final data from firm surveys in six countries indicate the total number of cases calculated from the national databases. For the exporting firms, the survey analysis shows that 85.5 per cent of measures are related to technical measures and about 10.5 per cent are non-technical.

Figure 6. Frequency of measures, by NTMs chapters (percentage of total measures)

As shown in figure 6, when categorized by NTM chapters, 51 per cent of measures are related to TBTs and 34 per cent to SPS measures. Pre-shipment price control, quantity control, finance and other measures account for about 10.5 per cent of NTMs reported in these six countries. It is worth noting that similar results were found for importing firms in the survey analysis.
Within the national firm-level data, Tunisia, Thailand and India reported more than 1,000 cases, while Uganda, the Philippines and Chile reported less than 1,000, this also being directly linked to the number of firms in the respective surveys. However, due to sample selection, most of the cases are related to complaints by exporting firms of the surveyed country (see table 3).

The analysis is then based on the import and export measures of these exporting and importing firms. Table 4 clearly shows that due to the reliance on exporting firms in the pilot project, the majority of the reported cases were found to be import measures, that is, exporting firm in country A complains against country B for their exports. The importing country then imposes trade policy measures that can potentially have an economic impact (cell C1 in table 4), followed by import measures of the importing firms (cell C3 in table 4). Thailand reported the maximum proportion of cases (98.6 per cent) against its trading partner, followed by the Philippines (87.2 per cent) and Chile (81.8 per cent). On the other hand, Tunisia (54.3 per cent) and Uganda (36.6 per cent) reported most of their complaints against their own government trade policies.

The firm-level survey database on NTMs indicates clearly, therefore, the cases related to measures imposed by trading partners and by home countries. Another way, therefore, to represent the information in table 4 is to categorize the measures into these groups, as shown in table 5. On average, 75 per cent of cases are directed by these firms against their trading partners, while about 25 per cent were against their own country’s trade policies.

Table 3. Number of reported NTMs cases, by firms

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of NTMs cases</th>
<th>Number of NTMs cases related to exporting firms</th>
<th>Number of NTMs cases related to importing firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>807</td>
<td>671</td>
<td>136</td>
</tr>
<tr>
<td>India</td>
<td>1,129</td>
<td>840</td>
<td>289</td>
</tr>
<tr>
<td>Philippines</td>
<td>815</td>
<td>808</td>
<td>7</td>
</tr>
<tr>
<td>Thailand</td>
<td>1,195</td>
<td>1,183</td>
<td>12</td>
</tr>
<tr>
<td>Tunisia</td>
<td>1,316</td>
<td>601</td>
<td>715</td>
</tr>
<tr>
<td>Uganda</td>
<td>963</td>
<td>611</td>
<td>352</td>
</tr>
<tr>
<td>Total</td>
<td>6,225</td>
<td>4,714</td>
<td>1,511</td>
</tr>
</tbody>
</table>

Source: UNCTAD secretariat calculations based on NTMs pilot project database.

Table 4. Number of reported NTMs cases (percentage) by firms and measures

<table>
<thead>
<tr>
<th>Country</th>
<th>Exporting</th>
<th>Importing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Import measures (C1)</td>
<td>Export measures (C2)</td>
</tr>
<tr>
<td>Chile</td>
<td>81.78</td>
<td>1.36</td>
</tr>
<tr>
<td>India</td>
<td>71.30</td>
<td>3.10</td>
</tr>
<tr>
<td>Philippines</td>
<td>87.24</td>
<td>11.90</td>
</tr>
<tr>
<td>Thailand</td>
<td>98.58</td>
<td>0.42</td>
</tr>
<tr>
<td>Tunisia</td>
<td>45.59</td>
<td>0.08</td>
</tr>
<tr>
<td>Uganda</td>
<td>63.34</td>
<td>0.10</td>
</tr>
<tr>
<td>Total</td>
<td>73.32</td>
<td>2.41</td>
</tr>
</tbody>
</table>

Source: UNCTAD secretariat calculations based on NTMs pilot project database.
Table 5. Number of survey-country-enforcing against partner-country-enforcing NTM cases (percentage)

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of cases</th>
<th>Survey country enforcing</th>
<th>Partner country enforcing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>807</td>
<td>18</td>
<td>82</td>
</tr>
<tr>
<td>India</td>
<td>1 129</td>
<td>28</td>
<td>72</td>
</tr>
<tr>
<td>Philippines</td>
<td>815</td>
<td>13</td>
<td>87</td>
</tr>
<tr>
<td>Thailand</td>
<td>1 195</td>
<td>1</td>
<td>99</td>
</tr>
<tr>
<td>Tunisia</td>
<td>1 316</td>
<td>54</td>
<td>46</td>
</tr>
<tr>
<td>Uganda</td>
<td>963</td>
<td>37</td>
<td>63</td>
</tr>
<tr>
<td>Total/average</td>
<td>6 225</td>
<td>25*</td>
<td>75*</td>
</tr>
</tbody>
</table>

Source: UNCTAD secretariat calculations based on NTMs pilot project database.
* Simple average of these categories over the six countries in the final list of firms.

Among the SPS measures and TBTs that were reported as particularly problematic were those related to labelling and packaging requirements, and requirements on conformity assessment (for example, certification, testing and inspection). Other types included those relatively new measures, such as cases pertaining to traceability to requirements under the aim of environmental protection (table 6).

Table 6. Number of reported NTM cases, by exporting firms (percentage of total cases)

<table>
<thead>
<tr>
<th>Country</th>
<th>Import measures</th>
<th>Export measures</th>
<th>Number of reported cases</th>
<th>Number of reported cases</th>
<th>Number of reported cases</th>
<th>Number of reported cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of SPs cases</td>
<td>Number of TBT cases</td>
<td>Other cases</td>
<td>Export-related cases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chile</td>
<td>43.96</td>
<td>42.92</td>
<td>11.48</td>
<td>1.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>27.26</td>
<td>44.76</td>
<td>23.81</td>
<td>4.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>31.31</td>
<td>48.02</td>
<td>8.67</td>
<td>12.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>44.04</td>
<td>51.56</td>
<td>3.98</td>
<td>0.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tunisia</td>
<td>4.20</td>
<td>74.13</td>
<td>21.67</td>
<td>0.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uganda</td>
<td>42.05</td>
<td>23.58</td>
<td>34.37</td>
<td>0.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average*</td>
<td>32.14</td>
<td>47.50</td>
<td>17.33</td>
<td>3.10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: UNCTAD secretariat calculations based on pilot project database.
* Simple average of these categories over the six countries in the final list of firms.

For import-related measures, on average 32 per cent of cases were related to SPS measures while 47 per cent cases were related to TBTs. Chile, Thailand and Uganda reported the maximum number of SPS cases, whereas Tunisia, Thailand and the Philippines reported the highest number of TBT cases.

5.3 Identifying reported cases by procedural obstacle

The firm-level surveys also indicate that procedural obstacles are very often associated with SPS measures or TBTs, as they involve procedures of certification, inspection, labelling and clearance. Furthermore, the majority of the procedural obstacle cases are related to the measure termed inefficiency or obstructions. In total, 1,376 firms in these developing countries reported 6,435 cases related to procedural obstacles. Of these, 4,881 cases were reported by exporting firms and 1,554 by importing firms (see figure 7).
At the country level, measures within the category inefficiency or obstructions were the most numerous of the procedural obstacles, followed by those of arbitrariness or inconsistency for the majority of the exporting firms. Tunisian firms complained the most about measures of inefficiency or obstructions, followed by Uganda, Chile and Thailand. For cases related to arbitrariness or inconsistency, Indian firms complained the most, followed by the Philippines and Chile. In the case of “non-transparency”, firms in Uganda reported more than 10 per cent of the cases. Firms in the Philippines and Thailand reported a lot of procedural obstacles related to “unusually high fees or charges” (see table 7a).

Table 7a. Number of reported procedural obstacles by exporting firms (percentage of total cases)

<table>
<thead>
<tr>
<th>Procedural obstacles classification</th>
<th>Chile</th>
<th>India</th>
<th>Philippines</th>
<th>Thailand</th>
<th>Tunisia</th>
<th>Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Arbitrariness or inconsistency</td>
<td>22.1</td>
<td>40.7</td>
<td>27.4</td>
<td>12.7</td>
<td>9.1</td>
<td>5.6</td>
</tr>
<tr>
<td>(B) Discriminatory behaviour favouring specific producers or suppliers</td>
<td>7.4</td>
<td>13.8</td>
<td>2.8</td>
<td>3.8</td>
<td>-</td>
<td>1.3</td>
</tr>
<tr>
<td>(C) Inefficiency or obstructions</td>
<td>64.9</td>
<td>33.7</td>
<td>42.9</td>
<td>63.2</td>
<td>82.6</td>
<td>68.0</td>
</tr>
<tr>
<td>(D) Non-transparency</td>
<td>3.9</td>
<td>8.8</td>
<td>6.8</td>
<td>4.4</td>
<td>4.0</td>
<td>10.1</td>
</tr>
<tr>
<td>(E) Legal issues</td>
<td>0.1</td>
<td>1.5</td>
<td>1.8</td>
<td>0.3</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>(F) Unusually high fees or charges</td>
<td>0.3</td>
<td>0.9</td>
<td>16.9</td>
<td>13.5</td>
<td>3.6</td>
<td>10.0</td>
</tr>
<tr>
<td>None/uncategorized</td>
<td>1.2</td>
<td>0.5</td>
<td>1.4</td>
<td>2.1</td>
<td>-</td>
<td>4.9</td>
</tr>
</tbody>
</table>

Source: UNCTAD secretariat calculations based on NTMs pilot project database.
The results obtained through an analysis by category for importing firms are very similar to those of exporting firms. In most of the surveyed countries, firms complained about arbitrariness or inconsistency. Inefficiency or obstructions-related cases were also very prominent (see table 7b).

### Table 7b. Number of reported procedural obstacles by importing firms
(percentage of total cases)

<table>
<thead>
<tr>
<th>Procedural obstacles classification</th>
<th>Chile</th>
<th>India</th>
<th>Philippines</th>
<th>Thailand</th>
<th>Tunisia</th>
<th>Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Arbitrariness or inconsistency</td>
<td>20.3</td>
<td>62.3</td>
<td></td>
<td>33.3</td>
<td>14.1</td>
<td>10.6</td>
</tr>
<tr>
<td>(B) Discriminatory behaviour favouring specific producers or suppliers</td>
<td>5.8</td>
<td>5.7</td>
<td></td>
<td>0.7</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>(C) Inefficiency or obstructions</td>
<td>68.1</td>
<td>21.5</td>
<td>85.7</td>
<td>41.7</td>
<td>71.9</td>
<td>66.0</td>
</tr>
<tr>
<td>(D) Non-transparency</td>
<td>4.3</td>
<td>10.4</td>
<td></td>
<td>1.6</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>(E) Legal issues</td>
<td>0.7</td>
<td>14.3</td>
<td>8.3</td>
<td>0.7</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>(F) Unusually high fees or charges</td>
<td>-</td>
<td></td>
<td>16.7</td>
<td>10.8</td>
<td>11.4</td>
<td></td>
</tr>
<tr>
<td>None/uncategorized</td>
<td>0.7</td>
<td>-</td>
<td>-</td>
<td>0.3</td>
<td>5.7</td>
<td></td>
</tr>
</tbody>
</table>

*Source: UNCTAD secretariat calculations based on NTMs pilot project database.*

### 5.4 Identifying reported cases by product groups

The NTMs project database was analysed to investigate the impact on product groups by Harmonized System 2 (HS 2) classification, following a categorization of the groups into two broad sectors – agricultural and non-agricultural products. The analysis indicates that about 33 per cent of agricultural products faced import measures, while 67 per cent of non-agricultural products faced the same type of NTMs in six developing countries (see figure 8). However, the magnitude varies across countries given their production and export base. In the case of agricultural products, 62 per cent of agricultural products in Chile faced NTMs, while this was only 8.6 per cent in the case of Tunisia. Thailand, Uganda and Philippines also reported an above average proportion of cases for agricultural products. Indian exporting firms faced NTMs for only about 16.5 per cent of their agricultural products.
Figure 8. Frequency of import measures, by product groups (percentage of total cases)

![Pie chart showing frequency of import measures by product groups.]

Source: UNCTAD secretariat calculations based on NTMs pilot project database.
Note: These results are computed from the sample survey in six developing countries.

Further analysis following a breakdown of the agricultural products shows that several groups vary in their exposure to NTMs across countries (see table 8).

Table 8. Product groups affected in the origin country, by import measures (percentage of total cases)

<table>
<thead>
<tr>
<th>Product groups</th>
<th>Chile</th>
<th>India</th>
<th>Philippines</th>
<th>Thailand</th>
<th>Tunisia</th>
<th>Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal and animal products</td>
<td>10.67</td>
<td>1.25</td>
<td>6.15</td>
<td>10.05</td>
<td>2.33</td>
<td>5.67</td>
</tr>
<tr>
<td>Vegetable products</td>
<td>39.93</td>
<td>11.97</td>
<td>13.03</td>
<td>22.80</td>
<td>1.88</td>
<td>28.35</td>
</tr>
<tr>
<td>Foodstuffs</td>
<td>11.66</td>
<td>3.20</td>
<td>13.34</td>
<td>16.98</td>
<td>4.38</td>
<td>6.89</td>
</tr>
<tr>
<td><strong>Agricultural products</strong></td>
<td><strong>62.26</strong></td>
<td><strong>16.42</strong></td>
<td><strong>32.52</strong></td>
<td><strong>49.83</strong></td>
<td><strong>8.59</strong></td>
<td><strong>40.91</strong></td>
</tr>
<tr>
<td>Mineral products</td>
<td>0.55</td>
<td>5.39</td>
<td>0.52</td>
<td>2.08</td>
<td>2.38</td>
<td>1.76</td>
</tr>
<tr>
<td>Chemicals and allied industries</td>
<td>1.76</td>
<td>11.01</td>
<td>3.44</td>
<td>4.16</td>
<td>10.49</td>
<td>13.09</td>
</tr>
<tr>
<td>Plastics/rubbers</td>
<td>2.97</td>
<td>3.28</td>
<td>2.09</td>
<td>6.37</td>
<td>5.63</td>
<td>4.65</td>
</tr>
<tr>
<td>Raw hides, skins, leather, and furs</td>
<td>0.44</td>
<td>4.84</td>
<td>1.76</td>
<td>0.49</td>
<td>2.11</td>
<td>2.23</td>
</tr>
<tr>
<td>Wood and wood products</td>
<td>8.80</td>
<td>3.36</td>
<td>11.46</td>
<td>1.64</td>
<td>5.04</td>
<td>4.09</td>
</tr>
<tr>
<td>Textiles</td>
<td>7.48</td>
<td>20.22</td>
<td>10.31</td>
<td>4.34</td>
<td>16.39</td>
<td>4.19</td>
</tr>
<tr>
<td>Footwear/headgear</td>
<td>0.66</td>
<td>1.96</td>
<td>0.42</td>
<td>0.77</td>
<td>1.13</td>
<td>2.88</td>
</tr>
<tr>
<td>Stone/glass</td>
<td>0.88</td>
<td>5.08</td>
<td>11.04</td>
<td>6.54</td>
<td>4.77</td>
<td>2.60</td>
</tr>
<tr>
<td>Metals</td>
<td>4.40</td>
<td>7.27</td>
<td>1.88</td>
<td>3.94</td>
<td>8.71</td>
<td>4.08</td>
</tr>
<tr>
<td>Machinery/electrical</td>
<td>6.49</td>
<td>11.02</td>
<td>2.40</td>
<td>9.67</td>
<td>18.95</td>
<td>11.25</td>
</tr>
<tr>
<td>Transportation</td>
<td>1.10</td>
<td>0.55</td>
<td>0.94</td>
<td>5.33</td>
<td>5.58</td>
<td>2.32</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2.20</td>
<td>9.61</td>
<td>21.25</td>
<td>4.78</td>
<td>10.17</td>
<td>5.95</td>
</tr>
<tr>
<td><strong>Non-agricultural products</strong></td>
<td><strong>37.73</strong></td>
<td><strong>83.59</strong></td>
<td><strong>67.51</strong></td>
<td><strong>50.11</strong></td>
<td><strong>91.35</strong></td>
<td><strong>59.09</strong></td>
</tr>
</tbody>
</table>

Source: UNCTAD secretariat calculations based on NTMs pilot project database.
Note: Import-related measure (destination country is enforcing/origin country is affected, figure 5).
In all countries surveyed, a majority of the NTMs complaints reported by exporting firms were related to non-agricultural products. For example, Tunisian exporters complained that more than 91 per cent of their non-agricultural products faced NTMs, while this figure was about 83.6 per cent in India, 67.5 per cent in the Philippines, 59.1 per cent in Uganda and 50.1 per cent in Thailand. Chile reported the lowest percentage of cases in terms of NTMs for non-agricultural products of exporting firms.

Within the non-agricultural products, some of the sectors faced a higher proportion of measures compared with other sectors in the countries examined. Thus, for the chemicals and allied industries sector, Ugandan exporters faced the highest number of measures, while for the wood and wood products sector, exporters from the Philippines faced the highest number of NTMs. Exporters in the textiles sector faced the greatest number of NTMs in India and Tunisia. Concerning the machinery/electrical sector, the exporters in Tunisia, Uganda and India faced the largest proportion of NTMs.

In summary, the firm-level surveys indicate the following results:

- Total number of firms surveyed: 2,120 firms in 7 countries;
- The total number of reported cases of NTMs was 6,225, of which the number of cases related to exporting firms was 4,714 (75.7 per cent), while the number of importing firms was 1,511 (24.3 per cent).

The firm-level surveys also show that the majority of the NTMs cases were reported as follows:

- Exporting and importing measures: SPS, TBT, other technical;
- Importing and import measures: SPS, TBT, other technical, para-tariff measures.

In the case of measures related to procedural obstacles, the survey results showed that a total of 6,034 measures were collected and classified, of which there were 4,880 exporting cases and 1,554 importing cases. Furthermore, within this category of procedural obstacles it was found that the majority of cases were due to measures related to inefficiency or obstructions.

The results also indicate that the majority of the NTMs cases related to import measures were reported for sectors as follows in the six countries:

- Agricultural products: on average 35 per cent faced measures, of which sectoral differences remain high across countries;
- Non-agricultural products: 65 per cent, on average, faced measures.

Key objectives of the pilot project NTMs surveys included a testing of the new classification of NTMs and also to understand the measures and procedural obstacles which are being used regularly and complained about by exporting and importing firms as problems for their trade activities. The firm-level surveys definitely helped to better understand the policy measures of major export destinations of the developing countries, such as the United States of America, the European Union, Japan and major emerging developing countries, as well as providing a good insight into the domestic policies on trade regulations and the products which are affected in these countries.
6. Conclusions

Future work on NTMs is now being discussed so as to expand the coverage of data collection and also to identify methodological frameworks for impact assessment. The future data collection will mostly depend on official sources of information on NTMs and be validated through some focused questionnaire-based firm-level surveys, which should be conducted following a closer assessment of official NTMs information set at the national level, at least for important trading partners from developed and developing countries.

UNCTAD is now proposing, along with other multilateral institutions, to launch a multi-year programme on NTMs with the scope of building, updating and disseminating free of charge the NTMs database based on the new NTMs classification and covering a large number of countries.

This proposed project on NTMs is expected to include the following objectives:
(a) To improve collaboration with national, regional and international agencies so as to increase awareness on NTMs-related issues and to facilitate data gathering and updating;
(b) To conduct research and policy analysis on the effect of NTMs on trade and economic development;
(c) To offer technical assistance and advisory/training services to developing countries by providing information and analysis on NTMs faced by exporters and importers.

UNCTAD recognizes that the availability of the NTMs global database will serve the following key objectives:

(a) Global database on NTMs:
• Efforts to create a cross-country time-series database in UNCTAD TRAINS on NTMs to evaluate the impact of changes in NTMs on traded goods;
• Harmonization of new NTMs classification and procedural obstacles to codify official NTMs information for specific sectors/products and to determine their sources, such as links to national laws and regulations numbers, footnotes, and references;

(b) Monitoring of NTMs:
• Types of NTMs applied and their product coverage to identify the level of protection in different goods sectors;
• Point out timing of NTMs application by countries and subsequently underscore the nature of their usage;

(c) Analysis and quantification of NTMs:
• Quantification and impact assessment of NTMs on trade and economic welfare by incorporating new NTM classification in simulation-based model frameworks, such as the computable general equilibrium (CGE) and gravity models;
• Explore inter-country comparisons of the incidence of NTMs through calculations of the AVEs of NTMs at the product and sector levels;
• Use information on NTMs and procedural obstacles for trade facilitations activities;
• Seek to understand questions related to impact assessment of NTMs on vulnerable economies, least developed and landlocked developing countries.

The latest UNCTAD-led initiative on NTMs, in collaboration with several international, regional and national stakeholders, that has so far resulted in globally accepted definition and new classification of NTMs has set the ground for a global effort to develop and maintain a comprehensive database of NTMs, which will eventually make research and analysis of NTMs much more timely and reliable.
It is expected that the NTMs-related research and analysis will better help policymakers to produce impact assessment analysis of trade-related reforms by providing reliable and up-to-date information on trade barriers and trade-related measures. Moreover, NTMs activities at the global level would directly and indirectly affect export supply capacity building, competitiveness and market access and entry, especially for developing countries. This process will also help provide the private sector with a better access to rules and regulations in their own country and with information about trading partners, including developed countries and trading blocks.

Finally, further advances in research and the development of analytical tools for trade policymaking is expected to be critical as a vehicle for promoting the integration of trade and investment to expand the depth and opportunities for global cooperation.
Annex

A summary of the firm-level results of the seven-country NTMs survey

The firm-level results obtained from the survey on NTMs in seven countries are described briefly.\(^{20}\)

(1) **Brazil**: The preliminary look at the firm-level survey (thin-sample size) carried out in Brazil found that export firms had more complaints about domestic administrative measures than foreign measures.\(^{21}\)

(2) **Chile**: Chile had a sample of 216 firms, including 54 importers, active in all sectors except services, mining and chemicals. Small firms (exports < $200,000) were excluded from the survey. The response rate was 33 per cent and export-oriented firms accounted for 60 per cent of Chile’s exports.

Chilean firms reported a total of 807 NTMs, where 136 related to importing firms. The average number of NTMs per firm was 3.7. Twenty-seven per cent of firms experienced no NTMs, and 40.7 per cent were affected by two to five cases of NTMs. Six firms (2 per cent) had more than 10 cases, five were food exporters, one was a construction firm (all large firms) and one went out of business. Of the total import-related NTMs, 44 per cent were SPS measures, 43 per cent were TBTs, and 11.50 per cent were other NTMs. The remaining 1.6 per cent were export-related measures.

It may be noted that Chile faces few barriers, perhaps because many of the firms that were interviewed have a long experience in dealing with them – 60 per cent of the firms were export-oriented and have learnt to cope with obstacles. There are more NTMs in Latin American countries, perhaps because of the type of goods exported or imported. There is no doubt that the existence of free trade agreements helps in reducing obstacles to trade. Only a few firms participating in the survey found it too expensive to comply.

(3) **India**: The Indian survey focused on relevant export and import sectors and on obtaining information on NTMs directly from respondents. It sampled the top 400 products in terms of export value, which represented 83.6 per cent (at HS 6 level) from 68 different HS chapters. The focus was also on products with a reported history or sensitivity to NTMs, and firms were chosen from three separate sectors: manufacturing, agricultural and primary goods. In terms of importers, the survey sampled the top 100 products in terms of import value, representing 72.2 per cent of imports.

In India, the project succeeded in identifying NTMs and the procedural obstacles which may affect the ability to trade. Of the 1,129 cases of NTMs reported, the large majority were related to SPS measures (27 per cent) and TBTs (45 per cent). These measures were largely imposed by the United States of America, the United Arab Emirates, the United Kingdom and

\(^{20}\) The results from official sources are not discussed in this paper. However, the majority of the NTMs from the official sources could also be grouped into SPS measures and TBTs.

\(^{21}\) A more detailed analysis of the Brazilian firm-level survey was not possible as the survey was launched during the economic crisis, at a time when Brazilian firms were more concerned about domestic issues than dealings with foreign markets. This lead to a certain amount of resistance on the part of surveyed firms and response rates were low. Efforts were made to improve the response but the results were unsatisfactory.
Germany. The top four sectors facing the largest numbers of NTMs were the textile, leather, electrical and electronic goods and food industries. The most important procedural obstacles faced by exporters consisted of arbitrary and inconsistent behaviour (62.3 per cent) and cases of inefficiency or obstructions (21.5 per cent).

(4) The Philippines: A total of 303 firms completed the questionnaires and the majority of firms reported at least one NTM case, 90 per cent between one and five NTMs, and 9 per cent reported between 6 and 10 cases of NTMs. The majority of cases were export-related measures, such as SPS measures and TBTs. Arbitrary or inconsistent measures were among the most represented procedural obstacles. Of the total number of measures reported, 31 per cent were related to SPS measures and 48 per cent concerned TBTs. The third highest category (12 per cent of cases) fell within the category of export-related measures.

A detailed breakdown of NTMs showed that the largest number of TBT cases concerned conformity assessment, and that voluntary standards and technical regulations accounted for 8.4 and 11 per cent, respectively. The largest number of procedural obstacles were related to inefficiency or obstructions (42.9 per cent), followed by cases of arbitrary or inconsistent behaviour (27.4 per cent) for exporting firms. The largest reported number of NTMs concerned exports to the United States of America (28 per cent), followed by Japan (9.2 per cent).

(5) Thailand: A total of 435 firms were interviewed and completed the surveys in Thailand. More than half of these firms were involved in manufacturing and about 20.69 per cent, or 90 firms, were both manufacturing and trading. Thirty-one firms, or 7.13 per cent, were classified as both multinational and trading firms. The 435 interviewed firms reported 1,195 cases of NTMs, an average of 2.74 cases per firm. About 93.79 per cent of interviewed firms reported between one and four cases, 5.98 per cent reported between five and nine cases and one firm reported 10 cases. In general, the firms that reported the largest number of cases were trading and multinational firms handling a wide variety of products with different trading partners in several countries.

As a major exporter of agricultural products, Thailand has experienced an increasing number of NTMs applied on its exports, notably SPS measures. Exporters have lodged a number of complaints with the Ministry of Commerce, accusing some importing countries of violating SPS measures. An increasing number of cases of TBT have also been imposed on non-agricultural products imported into Thailand and a rising number of complaints about TBTs have been received, particularly in relation to trade with China.

In Thailand, 44 per cent of reported NTMs concerned SPS measures and 51 per cent were related to TBTs. The largest number of cases involved rice, followed by crustaceans and fruit. The European Union, the United States of America and Japan account for half of the countries for which cases have been reported. The majority of cases of NTMs applied by Thailand are SPS measures and TBTs.

Only a small proportion of firms are aware of the significance of NTMs. Original equipment manufacturing producers are less concerned about NTMs. Larger firms face more varieties of NTM due to products and customers (destination countries). Some of the NTMs can be explained by the absence of trade facilitation, for example, insufficient inspection equipment available to handle increasing numbers of shipments, particularly for perishable products, inadequate certified laboratory facilities, and the like. The largest number of procedural obstacles were related to inefficiency or obstructions (63.2 per cent), followed by cases of unusually high fees or charges (13.5 per cent) for exporting firms.

(6) Tunisia: A total of 395 firms completed the questionnaires, declaring that, on average, they faced five NTMs. Of the 1,316 reported cases of NTMs, the large majority were related to SPS measures (4 per cent) and TBTs (74 per cent). The majority of these (54 per cent) concerned
importing firms. Over 75 per cent of cases of NTMs on exports reported by firms arose from their trading activity with five partners (France, Libya, Italy, Algeria and Germany). The largest category of products affected by NTMs was textiles (16.39 per cent).

The largest number of NTMs facing Tunisian importers concerned TBTs (77.6 per cent) and para-tariff measures (11.7 per cent). Among the most important procedural obstacles were problems of inefficiency or obstructions (82.6 per cent), arbitrary conduct and taxes and charges that were considered abnormally high. Over 75 per cent of cases of NTMs on imports reported by firms arose from their trading activity with five partners (France, Italy, Germany, Spain and China); the largest categories of products affected by NTMs were capital goods and electrical machinery, plastics and paint products.

The NTMs applied by Tunisia are essentially consumer protection measures (product safety) and are not really TBTs. Standards are the major NTMs applied and are generally the same or equivalent to international standards. The problem lies not in the NTMs but in their application. Tunisia does not apply any discrimination between partner countries, and implements effective price controls (anti-dumping, countervailing and safeguard measures). In line with its WTO commitments, Tunisia does not apply variable charges.

(7) Uganda: Uganda had a sample of 269 firms, including 81 importers and 16 firms engaged in exports and imports. These firms reported 963 cases of NTMs, an average of 3.6 cases per firm. Among the import-related measures reported, the large majority were related to SPS measures (42 per cent) and TBTs (23.6 per cent) for the exporting firms. Nearly all firms reported having experienced obstacles related to administrative procedures. Among the most important procedural obstacles were problems of inefficiency or obstructions (68 per cent), non-transparency (10.1 per cent) and fees or charges that were considered abnormally high (10 per cent).

For example, the SPS controls set by the importing countries, especially the European Union, are too strict – the requirements to attain these standards cannot be met by Ugandan farmers. As a landlocked country, Uganda critically depends on its neighbours, Kenya and the United Republic of Tanzania, to provide it access to sea and trade facilitation services, which include rail, road, sea freight, port, clearing and forwarding services. Survey results indicated that there were too many roadblocks along the major road transport routes, which greatly disrupts efficient movement of goods to the markets as well as increasing the incidences of non-transparency. There were also a number of cumbersome business registration and licensing procedures. The largest categories of products affected by NTMs were the sectors that included fresh fruit and vegetables, natural ingredients (honey) and fish.
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